

**UNITED STATES DEPARTMENT OF COMMERCE****Patent and Trademark Offic**

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*JAN*

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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08/997, 202 12/23/97 MYERS

G 1-5703

IM62/0817

MACMILLAN SOBANSKI AND TODD  
ONE MARITIME PLAZA 4TH FLOOR  
720 WATER STREET  
TOLEDO OH 43604

EXAMINER

PIAZZA, G

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 08/17/99

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

<b>Office Action Summary</b>	Application No. <b>08/997,202</b>	Applicant(s) <b>Gerald L. Meyers</b>
	Examiner <b>Gladys Piazza</b>	Group Art Unit <b>1733</b>

Responsive to communication(s) filed on \_\_\_\_\_.

This action is **FINAL**.

Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire three month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

#### Disposition of Claims

Claim(s) 14-24 is/are pending in the application.

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

Claim(s) \_\_\_\_\_ is/are allowed.

Claim(s) 14-24 is/are rejected.

Claim(s) \_\_\_\_\_ is/are objected to.

Claims \_\_\_\_\_ are subject to restriction or election requirement.

#### Application Papers

See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

The proposed drawing correction, filed on \_\_\_\_\_ is  approved  disapproved.

The specification is objected to by the Examiner.

The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. § 119

Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

All  Some\*  None of the CERTIFIED copies of the priority documents have been received.

received in Application No. (Series Code/Serial Number) \_\_\_\_\_.

received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

#### Attachment(s)

Notice of References Cited, PTO-892

Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_

Interview Summary, PTO-413

Notice of Draftsperson's Patent Drawing Review, PTO-948

Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 14, and 19-21 are rejected under 35 U.S.C. §103 as being unpatentable over admitted prior art and as conventional state of the art as evidenced by Duck et al. (U.S. Patent No 5,064,494) and Challenger et al. (U.S. Patent No. 4,528,057).

It is known to glue balanced weights on driveshafts (specification p.2, lines 14-16). It is well known in the adhesive bonding art to provide for temporary initial bonding by employing quick setting adhesives or adhesive portions with full bonding occurring at a later state with a slower setting adhesive or adhesive portion as evidenced, for example by Duck. Duck discloses a process that uses microwave energy to quick set a portion of the adhesive for a windshield on a motor vehicle and to allow the remainder of the adhesive to set later (column 2, lines 20-35).

Challenger discloses the need to assemble parts together in modern production lines or automation lines in as short a time as possible (column 1, lines 5-15). Challenger teaches that in adhesive bonding for manufacturing processes, the speed of manufacture is increased by quick

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setting a first adhesive portion with heat and allowing for delayed setting of the remainder adhesive (column 1, lines 15-20 and column 2, lines 39-51).

It would have been an obvious expedient to one of ordinary skill in the art to provide quick setting/slow setting adhesive portions to speed up manufacture involving bonding steps such as in the manufacture of driveshafts bonded with glued balance weights. It is noted that when a balanced weight is bonded with adhesive to a drive shaft, portions of the adhesive will extend from between the driveshaft and the balanced weight when the balanced weight is pressed against the drive shaft; this portion that extends from between the balanced weight and the driveshaft would cure prior to the portion of adhesive between the balanced weight and the driveshaft because it is exposed to the atmosphere.

As to claims 20 and 21, ultraviolet radiation and heat are both well known curing processes for adhesives and it would have been obvious to use these curing processes when curing a portion of adhesive bonding a balanced weight to a drive shaft.

3. Claim 15-17, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art in view of Duck et al. and Challenger et al. as applied to claim 14 above, and further in view of Riebschleger (U.S. Patent No. 5,435,720) and Albrecht et al. (U.S. Patent No. 5,875,171).

The references are applied as discussed above in paragraph 2. It is known in the adhesive arts to provide a serrated outer surface when bonding two articles together in order to form a stronger bond with mechanical interlock.

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Riebschleger discloses bonding two articles together, a dental bracket to a tooth, where the dental bracket has a serrated outer peripheral surface (openings or notches added to the base) and excess adhesive extends (emanates) from the peripheral surface of the dental bracket (periphery of the base plate) and is directed up along the sides of the dental bracket for the purpose of providing a positive mechanical lock of the dental bracket to the adhesive (column 2, lines 30-50 and column 4, lines 4-25). As for claims 16 and 17, Riebschleger discloses a thin rim portion of the second article (flat base plate of dental bracket) which also has a serrated edge (notches) (column 3, 57-68). As for claim 23, the adhesive material extends from between the tooth and the outer surface of the dental bracket to provide the mechanical interlock.

Albrecht also discloses two articles, disk and spacer, adhesively bonded with a mechanical interlock provided by an appropriate texture on one of the articles for the improvement of the contact of the two surfaces (column 2, lines 45-55 and column 4, lines 3-9).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use adhesive bonding techniques such as quick setting/ slow setting adhesive portions as shown by Duck and Challenger with articles of different shapes such as a thin rim and a serrated edge that improve the bonding of the articles as shown by Riebschleger and Albrecht when bonding a balanced weight to a driveshaft as shown by admitted prior art since it is known in the adhesive bonding art to use shapes that provide mechanical interlock in order to increase the bond strength between the articles.

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4. Claims 18, 23, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art in view of Duck et al. and Challenger et al. as applied to claim 14 above, and further in view of Welsh et al. (U.S. Patent No. 5,778,737).

The references are applied as discussed above in paragraph 2. It is well known to provide a balanced weight with an inner surface that corresponds to the outer surface of the driveshaft when bonding balanced weights to driveshafts and to provide for an aperture on the weight.

As to claim 18, Welsh discloses a method of securing a balanced weight on a driveshaft where the weight is curved to conform to the outer diameter of the driveshaft (column 2, lines 1-3 and 49-53). It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide for a balanced weight that conforms to the shape of the drive shaft as shown in Welsh when bonding a balanced weight to a driveshaft as shown by admitted prior art, Duck and Challenger since it is well known to provide for corresponding shapes when bonding articles, particularly a weight and driveshaft, together.

As to claims 23 and 24, Welsh discloses providing an aperture in a balanced weight so that the adhesive material (molten aluminum) flows through the aperture such that a portion of the adhesive material extends over the outer surface of the balanced weight (the aluminum overflows, forming a "cap" over the surface of the weight) (column 3, lines 11-15). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use techniques that improve the adhesive bond of two articles such as an aperture in a balanced weight as shown by Welsh when bonding a balanced weight to a driveshaft as shown by admitted

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prior art, Duck and Challenger, since it is known to use balanced weights with apertures when bonding to driveshafts in order to form a stronger bonds.

5. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art in view of Duck and Challenger as applied to claim 14 above, and further in view of Wolinski et al. (U.S. Patent No. 4,126,504).

The references are applied as discussed above in paragraph 2. It is well known when joining two articles to apply an adhesive to one article and a catalyst or activator to the other article for the purpose of simplifying and speeding up the adhesion process.

Wolinski discloses a method of applying an activator to one article surface and an adhesive to another article surface for a wide range of applications in mass production (column 1, line 25-40 and column 2, line 66 to column 3, line 5). It would have been obvious to one having ordinary skill in the art at the time of the invention to use this method of joining two articles with an activator applied to one article and an adhesive applied to the other article when employing the method of bonding a balanced weight to a driveshaft as shown by admitted prior art in view of Duck and Challenger, since it is well known to use a separate activator in order to speed up the manufacturing process.

***Response to Amendment***

The amendments to the specification correct the prior objections.

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***Response to Arguments***

6. Applicant's arguments filed July 7, 1999 have been fully considered but they are not persuasive.

The new claims 14-24 have been rejected. The applicant admits in the specification that it is known to bond balanced weights to driveshafts with adhesives. Adhesive disposed between a balanced weight and a driveshaft would extend from between the balanced weight and the driveshaft when the two articles are pressed together. It is known in the bonding art to speed up an assembly line by spot curing a portion of the adhesive to provide a sufficient bond to allow the article to be further processed and then allowing the other portions of adhesive to cure later.

In response to applicant's argument in the third paragraph under REMARKS that the art cited (Duck et al. and Challenger et al.) is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. In this case, the art cited are exemplary of the adhesive bonding art as a whole. A person of ordinary skill in the art of bonding a balanced weight to a driveshaft would look to general adhesive bonding techniques that would improve the speed of manufacture. It is well known to cure portions of adhesive in order to allow further processing of materials before all of the adhesive is cured, allowing faster production times. This concept is exemplified by the references Duck et al. and Challenger et al.

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*Conclusion*

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Gladys Piazza** whose telephone number is **(703) 305-1271**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Ball may be reached at (703)308-2058. The fax number for this group is (703) 305-7718.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.

*Gladys Piazza*  
Gladys Piazza

August 12, 1999

*Michael W. Ball*  
Michael W. Ball  
Supervisory Patent Examiner  
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